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VASCULAR DISEASE

PREVALENCE OF CORONARY ARTERY DISEASE DETECTED ON ROUTINE ECG-GATED COMPUTED TOMOGRAPHY EVALUATION OF CONGENITAL THORACIC AORTIC ANEURYSMS

ACC Poster Contributions
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Session Title: Thoracic and Abdominal Aortic Diseases
Abstract Category: 11. Peripheral Arterial/Carotid Disease/Aortic Disease
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Background: Patients with congenital causes for thoracic aortic aneurysms (TAAs) have historically been thought to harbor some protection and be at low risk for coronary artery disease (CAD), but data are not clear. The aim of this study was to determine the prevalence of subclinical CAD for congenital TAA patients using ECG-gated CT angiograms (CTA).

Methods: Nineteen congenital TAA patients that had a routine ECG-gated CTA for TAA evaluation were included in this retrospective study. No patients had known CAD. Clinical risk factors for CAD were obtained for all patients. TAA etiologies included Marfan syndrome (n=4), bicupsid aortic valve (n=9), and other congenital TAA (n=4). Coronary stenoses on CTA were identified by two independent readers with any discrepancy resolved by consensus. CAD severity was categorized by quintiles of coronary stenosis using a 20 segment coronary model. The prevalence of CAD was determined at the patient and coronary segmental levels.

Results: Eight (42%) patients had luminal CAD with 4 (21%) having at least one >50% stenosis and 2 (11%) had one >70% stenosis. Of the 215 coronary segments evaluated, 76 (35%) of segments had visualized CAD; 7 (3%) had >50% stenosis and 2 (1%) had >70% stenosis. CAD risk factors included hypertension (n=5), dyslipidemia (n=2) and smoking (n=2). Patients with coronary stenosis tended to be younger (41 ± 3.9 years) compared to those without CAD (51±4.9 years, p=0.16). There was no obvious difference with other CAD risk factors, but this was underpowered for significance. There was no difference between CAD prevalence and TAA etiology (p>0.5).

Conclusions: In this observational trial of patients with congenital TAA, the prevalence of CAD appears relatively high suggesting that these patients may not be at low risk for CAD development. Additional studies to further evaluate CAD prevalence in congenital TAA patients appears warranted.